

Sensory Smart™ Sleep Strategies

Lindsey Biel, M.A., OTR/L

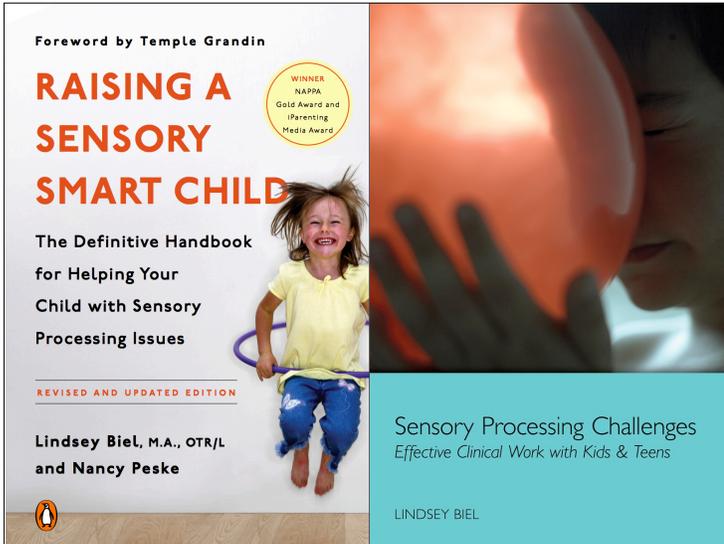
Co-author, Raising A Sensory Smart Child

Author, Sensory Processing Challenges:
Effective Clinical Work with Kids & Teens

sensorysmarts.com

sensoryprocessingchallenges.com

© Lindsey Biel, 2022



Tactile Processing

- 👂 What do you feel? Where? Is it dangerous?
- 👂 Light touch (protective pathways) vs. deep pressure
- 👂 **Common annoyances:** Clothing, shoes, socks, lotion, hair washing, toothbrushing, nail trimming
- 👂 **Specific to sleep:** Pajamas, bedding, room temperature, vibrations from air conditioner/radiator/traffic

© Lindsey Biel



Auditory Sensitivity

- Normal hearing threshold vs. hyperacusis
- Filter out irrelevant noise vs. process what's important
- High and low frequencies: hair dryers vs. airplanes
- **Common annoyances:** classroom, sirens/alarms, auto flush toilets, hand dryers, vacuum, blender, hairdryer, kids clapping/crying/singing, fluorescents
- **Specific to sleep:** Household noise (TV, talking) sibling snoring, noise of radiator or air conditioner, traffic, electrical and appliance buzz



Visual Processing

- See well up close and far away, converge eyes, follow moving objects, foreground/background discrimination, depth perception for stairs, ball skills
- **Common annoyances:** Sensitivity to light, pattern, glare, contrast, overstimulation in busy visual field
- **Specific to sleep:** feels lost in the dark, vision issues distort dimly lit environment in a frightening way, overaroused by light, blue light from screens and artificial lighting may interfere with circadian rhythms.

© Lindsey Biel

Taste & Smell

- Smell travels directly to limbic system (emotional brain)
- Danger detection system for toxic fumes, rotten food
- Both contribute to feeding issues, along with tactile (texture, temperature) and vision (looks gross)
- **Common annoyances:** Lotions, deodorant, perfume, coffee breath, cleaning products, art supplies, bathroom
- **Specific to sleep:** smell of detergent on bedding, pajamas, body odor, kitchen smells, toothpaste aftertaste



© Lindsey Biel

Vestibular & Proprioceptive

- 🔊 **Vestibular** system in inner ear detects changes related to gravity and speed. Internal body awareness from **proprioceptive** receptors in joints, muscles, ligaments, and other connective tissue
- 🔊 **Common annoyances:** Movement challenges at recess, gym, walking, running, cars and planes. May be clumsy, break things easily, overly sensory seeking.
- 🔊 **Specific to sleep:** disoriented by change in head position, gets dizzy when laying down, room may spin, craves sensory input so needs to move to locate body in space especially if lights are off and vision can't assist

© Lindsey Biel

Interoception

- 🔊 Sense of physiological condition of the body such as hunger, thirst, heart rate, bowel and bladder fullness
Am I okay? Am I safe?
- 🔊 **Specific to sleep:** may be hyperaware of body functions such as sound of own breathing or heartbeat, thirst/hunger may interfere with sleep, may need to pee frequently if sensitive to these sensations, or if undersensitive may not awaken to use toilet



© Lindsey Biel

Self-Regulation Skills

- 🔊 Sleep problems common in kids with sensory issues who struggle to self-regulate due to their sensory challenges.
- 🔊 Busy brains overthink day's events, feel left out if others are awake, family has inconsistent bedtime routines & expectations.
- 🔊 Genetic differences result in insufficient melatonin production (pineal gland hormone regulating sleep-wake cycles)
- 🔊 Sensitive, anxious kids may produce stress hormones like cortisol all day
- 🔊 Becomes more difficult to identify a window of sleepiness
- 🔊 Nervous system overarousal interferes with brain wave shift from hi-Beta (high stimulation typical of hypersensitivity) to Delta (deep sleep)

© Lindsey Biel

Kids on the autism spectrum

- 👤 Not all kids with sensory issues are on the autism spectrum, but virtually all with ASD have sensory challenges!
- 👤 2018 study in Pediatrics: kids with ASD more than twice as likely to have serious problems getting quality sleep. Also 45% more likely to have moderate sleep problems than kids with other developmental delays, and 75% more likely than typical kids to have moderate problems.
- 👤 Kids with autism tend to have problems transitioning from one activity to another. Sleep is a **huge** transition.
- 👤 Kids on the spectrum also have a significantly higher incidence of seizure activity that interferes with brain wave function.

Sensory Smart™ Sleep Strategies

- 👤 Recognize that sensory challenges are **real**
 - 👤 ask questions - kids think everyone feels as they do
 - 👤 use Sensory Screening Tools (sensorysmarts.com)
- 👤 Implement sensory strategies and modify environment



Illustration: Edmund Dulac, Princess and the Pea, 1901

Become a Sensory Detective

1. What sensory demands are intolerable?
2. What about the environmental context?
3. Does the child feel safe?
4. How can sensory smart parents better prepare the child and the environment for sleep?



© Lindsey Biel

Rethink Bedtime Routines

- 👂 Recognize difference in neurological ability to lower arousal. Bedtime routine may need to start hours before you want child to be asleep
- 👂 Is bath/shower relaxing or stimulating? If bath doesn't rev up and no drinking water, try epsom salts
- 👂 What is most regulating? Reading, music, or meditation?
 - 👂 Find the music your child loves
 - 👂 Look for guided meditations for children on YouTube, Headspace, other apps and CDs
 - 👂 Reduce/eliminate screen use at night because blue light interferes with production of melatonin needed for sleep. If used, set to Nite Mode to cut blue light.

👂 © Lindsey Biel

Rethink Bedtime Routines

- 👂 Recognize difference in neurological ability to lower arousal. Bedtime routine may need to start hours before you want child to be asleep
- 👂 Is bath/shower relaxing or stimulating? If bath doesn't rev up and no drinking water, try epsom salts
- 👂 What is most regulating? Reading, music, or meditation?
 - 👂 Find the music your child loves
 - 👂 Look for guided meditations for children on YouTube, Headspace, other apps and CDs
 - 👂 Reduce/eliminate screen use at night because blue light interferes with production of melatonin needed for sleep. If used, set to Nite Mode to cut blue light.

👂 © Lindsey Biel

Breathe to De-Stress

- 👂 Vagus nerve reaches the heart, lungs, upper digestive tract, and other organs. Stimulating the vagus nerve reduces arousal, telling the body it's time to relax. Deep, slow breathing is key!
- 👂 Whistles and blow toys
- 👂 Blow feathers off hand, cotton balls across table
- 👂 Balloon breath, lion breath, dinosaur breath
- 👂 Sesame Street Breathing video
- 👂 Take 5 Breathing (next slide)
You can do this anywhere without a video!

CALM DOWN WITH TAKE 5 BREATHING



Bubble Mountain

- ☛ For older kids
- ☛ Make sure they can breathe **through** a straw
- ☛ Can use food-grade silicone tubing instead of straw



From wired to “just right”

- ☛ If a child’s nervous system **craves** input, may not respond well to traditional calming input. Too large a leap in energy level. Need to taper down.
- ☛ High arousal/sensory seeking: give **intense** vestibular and proprioceptive input: climb stairs, run laps, jump on trampoline, rough and tumble play **then** start regulating activities such as massage, hugs, books, music...

Swings, Rockers, Bouncers & SNOO

- Some babies **need** motion to fall asleep:
 - Rock back and forth on a swing, your arms, or two adults holding a blanket to swing
 - Take a stroller ride
 - Take a car ride
- Safe sleep advocates and pediatricians advise against rockers or bouncers due to safety concerns, e.g., infant deaths with Fisher-Price's Rock 'n Play Sleeper.
- Dr. Harvey Karp (*The Happiest Baby on the Block*)'s SNOO bassinet uses gentle rocking, white noise, swaddling that simulates calming sensations of the womb. Follows crib/bassinet safety requirements. Expensive (\$1495 or \$149/mo to rent) but studies show it works REALLY well when parents have tried everything else! See happiestbaby.com



Get the Ya-Yas Out: Older Kids

- Swing, bounce, jump, push, pull, crash, throw, pound etc.
- Easy to do at home: Climb stairs, pull wet laundry out of machine, gonoodle.com, bounce on therapy ball, create crash pad, obstacle courses, wheelbarrow walk in plank position
- Body awareness games: Yoga Spinner, Move Your Body cards, Feed the Woozle, Cat in the Hat I Can Do That!



© Biel & Peske 2018, illustration from Raising a Sensory Smart Child

Touch Sensitivity Strategies

- Deep pressure bombards tactile receptors: "Brushing" (DTPP) with joint compressions, massage, swaddling/burrito, sandwich, cookie dough, scrubbing
- Sensory exploration: Sandbox, sensory bin, Kinetic Sand, Play-doh, gluten-free Wonder Dough, low-scent, low-residue Crayola Model Magic, hand squishies
- Vibration: Vibrating snake, Jigglers, other vibrating toys



© Lindsey Biel

Sensitivity to Textures

- 👤 Nightclothes and underwear- try compression for deep pressure, i.e, snug tank and leggings vs. loose nightgown or PJs.
- 👤 Seamless underwear (smartknitkids.com), briefs vs. boxers vs. commando and seamless socks if kids like to wear to bed.
- 👤 Sheets: Cotton vs. flannel



© Lindsey Biel

Make It Feel Right

- 👤 Temperature and pillows. Cooling pillows and gel cooling pads, bamboo pillows, Bouffi Breathable 3-D Mesh (0-2 years) memory foam vs. down and so on. Resources: chilitechnology.com, BB&Beyond, Amazon.
- 👤 Mattress: Consider density, try a pillow topper. Sealy Tender Vibes Soothing Mattress, Sleep Number vibrating mattress, add vibrating toy to bed. Place bed against wall or place mattress on floor for postural security.
- 👤 Blankets: down vs. fiber fill, etc.



© Lindsey Biel

Weighted Blankets

- 👤 Initially for special needs population, now mainstream. Designed to reduce anxiety and promote sleep.
- 👤 Weight: usually 10% of body weight plus 1-2 pounds.
- 👤 Person MUST be able to independently and easily remove the blanket by peeling it aside.
- 👤 NOT for kids under age 3 (pellets are choking hazard). Can use for short periods with supervision only.
- 👤 Never cover the person's head or use as a restraint.
- 👤 Do not use if respiratory, skin or other issues. Check with pediatrician if uncertain.

Resources: *The Weighted Blanket Guide*, sensorysmarts.com's helpful websites, Brookstone, Target

© Lindsey Biel



Oral Comforts

- ☛ Many kids with sensory issues suck thumbs and use pacifiers for longer than typical
- ☛ Vibrating toothbrush
- ☛ Vibrating teethers and Jigglers (over age 3) with supervision
- ☛ Avoid silicone beads that child can break apart and swallow
- ☛ Consider food grade silicone tubing to chew on for older kids still using a pacifier
- ☛ Water in bottle, never juice or milk!



© Lindsey Biel

Light Sensitivity

- ☛ Lower lights as the evening progresses
- ☛ Sensitive people see and hear fluorescent lighting. Associated with visual fatigue, headache, migraine. Use full spectrum, incandescent, warm LED or halogen with dimmers. If unable to replace, use light diffuser. Shown: Cozy Shades.



© Lindsey Biel

Night Light or Total Darkness?

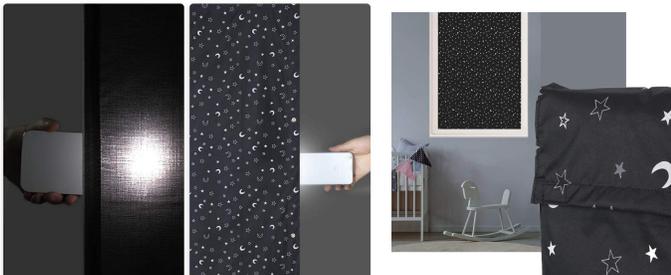
- Dimmable amber nightlights



Blackout Shades

- Permanent are expensive but often worthwhile
- Portable Blackout Shades
Attach with suction cup, you can pack for travel!

Light Transmission Difference



Noise Sensitivity

- Ear infections can cause distorted hearing. Consider treatment for hypersensitive hearing.
- Play music over speakers, noise machines/CDs, Sleep Phones Sheep holds MP3 player, bedtime toys such as Cloud B Sleep Sheep plays 8 soothing sounds.



© Lindsey Biel

Soothing Sounds for Sleep

- 🔊 [MyNoise.net](https://www.mynoise.net) site and MyNoise smartphone app: Sounds of nature, transportation, chants, and more
- 🔊 **Binaural Beats for Sleep** on Spotify, Tidal, YouTube
 - ~Delta (1 to 4 Hz) range have been associated with relaxation and deep sleep
 - ~Theta (4 to 8 Hz) range associated with REM sleep, meditative /creative/decreased anxiety states

© Lindsey Biel



Smell Sensitivity

- 🔊 Empty all household garbage before bed
- 🔊 Avoid scented detergent and laundry softeners and strong household cleansers
- 🔊 If hypersensitive to smell try high-quality essential oil in a diffuser. Trial and error to find what works best.

Anecdotal evidence + study in a neonatal intensive care unit found pleasant odors, particularly pure vanilla essential oil, helps with breathing during sleep for preemies.



© Lindsey Biel

Stay Connected to Reduce Anxiety

- 🔊 Baby monitor for younger kids so they know you can hear them
- 🔊 Try walkie talkies for older kids
- 🔊 Dream Jar (water & glitter) or Monster Spray (water & maybe essential oil)
- 🔊 Age-appropriate lovey that carries your smell